



August 09, 2017

Tom Moe USS Corporation P.O. Box 417 8771 Park Ridge Dr Mountain Iron, MN 55768

RE: Project: NPDES Line 3 weekly Pace Project No.: 1292116

### Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on July 19, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melisa M Woods melisa.woods@pacelabs.com (218)742-1042 Project Manager

Massi Wirds

Enclosures

cc: Bethany Given, USS Corporation Terri Sabetti, NTS







## **CERTIFICATIONS**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107 Alaska Certification UST-107 California Certification #2973 California Certification #2973 Montana Certificate #CERT0103 Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203 Wisconsin DNR Certification #: 998027470 WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

California Certification #2973

(218) 742-1042



# **SAMPLE SUMMARY**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1292116001	WS-002 Scrubber Make-up	Water	07/19/17 08:35	07/19/17 13:15
1292116002	WS-003 Thickner Overflow	Water	07/19/17 08:25	07/19/17 13:15

(218) 742-1042



# **SAMPLE ANALYTE COUNT**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1292116001	WS-002 Scrubber Make-up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1292116002	WS-003 Thickner Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	CSD	1	PASI-V



# **ANALYTICAL RESULTS**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

Date: 08/09/2017 04:56 PM

Sample: WS-002 Scrubber Make-	up Lab ID:	1292116001	Collected	d: 07/19/17	7 08:35	Received: 07/	19/17 13:15 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered	Analytical	Method: EPA	200.7 Prepa	ration Meth	od: EP	A 200.7			
Calcium, Dissolved	114	mg/L	5.0	0.91	10	07/21/17 11:02	07/24/17 12:53	7440-70-2	
Magnesium, Dissolved	240	mg/L	5.0	0.68	10	07/21/17 11:02	07/24/17 12:53	7439-95-4	
Total Hardness, Dissolved	1270	mg/L	100	5.0	10	07/21/17 11:02	07/24/17 12:53		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0						
Sulfate	917	mg/L	20.0	10.0	10		07/29/17 09:05	14808-79-8	
Sample: WS-003 Thickner Overflo	ow Lab ID:	1292116002	Collected	d: 07/19/17	7 08:25	Received: 07/	19/17 13:15 Ma	atrix: Water	
Sample: WS-003 Thickner Overflo			Report						Ougl
Sample: WS-003 Thickner Overflo	Results	<b>1292116002</b> Units		d: 07/19/17	7 08:25 DF	Received: 07/	19/17 13:15 Ma Analyzed	cAS No.	Qual
Parameters	Results		Report Limit	MDL	DF	Prepared			Qual
Parameters  200.7 MET ICP, Lab Filtered	Results	Units	Report Limit	MDL	DF	Prepared		CAS No.	Qual
Parameters  200.7 MET ICP, Lab Filtered  Calcium, Dissolved	Results Analytical	Units  Method: EPA 2	Report Limit 200.7 Prepa	MDL tration Meth	DF nod: EP/	Prepared A 200.7	Analyzed	CAS No. 7440-70-2	Qual
Parameters  200.7 MET ICP, Lab Filtered  Calcium, Dissolved	Results Analytical	Units  Method: EPA 2  mg/L	Report Limit 200.7 Prepa	MDL tration Meth	DF nod: EP/	Prepared A 200.7 07/21/17 11:02	Analyzed 07/24/17 12:56	CAS No. 7440-70-2	Qual
Parameters  200.7 MET ICP, Lab Filtered  Calcium, Dissolved  Magnesium, Dissolved	Analytical 889 28.9 2340	Units  Method: EPA 2  mg/L  mg/L	Report Limit 200.7 Prepa 5.0 5.0 100	MDL tration Meth 0.91 0.68	DF nod: EP/ 10 10	Prepared A 200.7 07/21/17 11:02 07/21/17 11:02	Analyzed  07/24/17 12:56 07/24/17 12:56	CAS No. 7440-70-2	Qual



#### **QUALITY CONTROL DATA**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

120181

QC Batch:

QC Batch Method: EPA 200.7 Analysis Method:

EPA 200.7

Analysis Description:

Matrix: Water

200.7 MET Dissolved

Associated Lab Samples: 1292116001, 1292116002

METHOD BLANK: 476787 Associated Lab Samples:

1292116001, 1292116002

Blank

Reporting

Parameter Units Calcium, Dissolved mg/L Result ND Limit 0.50

0.50

Analyzed 07/24/17 11:37 Qualifiers

Magnesium, Dissolved

mg/L

Units

mg/L

ND

MDL

0.091

0.068 07/24/17 11:37

% Rec

LABORATORY CONTROL SAMPLE: 476788

Parameter

Spike Conc. 50

Conc.

LCS Result 51.6 51.1

476790

MS

476792

87.0

143

% Rec Limits 103 102

Qualifiers

Magnesium, Dissolved

Parameter

Calcium, Dissolved

Calcium, Dissolved

Magnesium, Dissolved

mg/L

1292244001

Result

Units

mg/L

mg/L

LCS

85-115

85-115

102

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

476789

35.9

89.9

MSD MS Spike

50

50

50

Spike Conc.

MSD Result Result

MS % Rec

102

MSD % Rec % Rec Limits

Max **RPD** RPD

Qual

Qual

476791

50

50

87.1

140

106 100 70-130 70-130

0 20 2 20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1292244003

MS MSD Spike Spike

MS MSD MSD

% Rec

Limits **RPD** 

RPD 20

Max

0

Calcium, Dissolved Magnesium, Dissolved

Date: 08/09/2017 04:56 PM

Parameter

Units Result 36.3 mg/L 90.6 mg/L

Conc. 50

50

Conc. 50

50

Result Result 88.5 142

88.1 104 102 142

MS

% Rec

104 102

% Rec

70-130 70-130

0 20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALITY CONTROL DATA**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

Date: 08/09/2017 04:56 PM

QC Batch: 121060 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1292116001

METHOD BLANK: 480469 Matrix: Water

Associated Lab Samples: 1292116001

ParameterUnitsBlank ResultReporting LimitMDLAnalyzedQualifiersSulfatemg/LND2.01.007/29/17 07:43

LABORATORY CONTROL SAMPLE: 480470

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfate mg/L 50 51.5 103 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 480471 480472 MS MSD

1292041002 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual Sulfate 250 90-110 0 20 mg/L 254 250 519 520 106 107

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 480473 480474

MS MSD 1292016004 MS MSD MS Spike Spike MSD % Rec Max Limits RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec RPD Qual Sulfate 14.2 100 100 121 121 106 107 90-110 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALITY CONTROL DATA**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

Date: 08/09/2017 04:56 PM

QC Batch: 122027
QC Batch Method: EPA 300.0

Associated Lab Samples: 1292116002

Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions

METHOD BLANK: 484297 Matrix: Water

Associated Lab Samples: 1292116002

ParameterUnitsBlank Reporting ResultReporting LimitMDLAnalyzedQualifiersSulfatemg/LND2.01.008/07/17 16:52

LABORATORY CONTROL SAMPLE: 484298

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfate mg/L 50 50.3 101 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 484299 484300 MS MSD 1293342001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual Sulfate 50 20 mg/L 50.8 50 103 104 105 106 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 484301 484302 MS MSD 1292436001 MS MSD MS Spike Spike MSD % Rec Max % Rec Limits RPD Parameter Units Result Conc. Conc. Result Result % Rec RPD Qual Sulfate 25.6 50 50 78.7 79.9 106 109 90-110 2 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALIFIERS**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

#### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## **LABORATORIES**

Date: 08/09/2017 04:56 PM

PASI-V Pace Analytical Services - Virginia

(218) 742-1042



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: NPDES Line 3 weekly

Pace Project No.: 1292116

Date: 08/09/2017 04:56 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1292116001 1292116002	WS-002 Scrubber Make-up WS-003 Thickner Overflow	EPA 200.7 EPA 200.7	120181 120181	EPA 200.7 EPA 200.7	120218 120218
1292116001	WS-002 Scrubber Make-up	EPA 300.0	121060		
1292116002	WS-003 Thickner Overflow	EPA 300.0	122027		

		П				12	11	10	9	8	7	6	5	4	ω	2	1	ITEM #		Request	Phone:	Email:	M+ Iron	Compan	Require	Section A
					ADDITIONAL COMMENTS											WS-003 Thickner Overflow	WS-002 Scrubber Make-Up	SAMPLE ID  One Character per box. (A-Z, 0-9 / , -)  Sample lds must be unique		Requested Due Date:	[Fax	Email:	MN 55768	y: USS Corporation	Required Client Information:	Pace Analytical
			0					-										MATRIX Drinking Valter DW Water WT Waste Valter WW Product P Solf/Solid SL Oil Wipe Air Other OT Tissue TS		Project #:	Project Na	Purchase Order #:	COPY 1.C.	Report To	Required Project Information:	Section B
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# Pace Analytical"

## Document Name: Sample Condition Upon Receipt Form

Document No.: F-VM-C-001-Rev.10 Document Revised: 15Mar 2016 Page 1 of 1

Issuing Authority:

Pace Virginia, Minnesota Quality Office

Empla@mildom   Client Name: Upomilgadips   /// 5			Project #	W0#:1292116
Courier: Fed Ex UPS Commercial Pace Tracking Number:	USPS Other:			PM: MMW Due Date: 08/02/17 CLIENT: USS CORP
Custody Seal on Cooler/Box Present?	No	Seals II	ntart?	Yes No Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap Bubble				
				Blue None Samples on ice, cooling process has be
Cooler Temp Read °C:	Factor:	5,3	Date and	Biological Tissue Frozen? Yes No Finitials of Person Examining Contents: Comments:
Chain of Custody Present?	Yes	□No	□N/A	1.
Chain of Custody Filled Out?	Yes	_No	□N/A	2.
Chain of Custody Relinquished?	Yes	□No	□N/A	3.
Sampler Name and Signature on COC?	Yes	□No	□N/A	4.
Samples Arrived within Hold Time?	Yes	□No	□N/A	5. If Fecal.
Short Hold Time Analysis (<72 hr)?	Yes	ZNO	□N/A	6.
Rush Turn Around Time Requested?	Yes	No	□N/A	7.
Sufficient Volume?	Yes	No	□N/A	8.
Correct Containers Used?	<b>∑</b> Yes	□No	□N/A	9
-Pace Containers Used?	Yes	No	□N/A	
Containers Intact?	Yes	□No	□N/A	10.
Filtered Volume Received for Dissolved Tests?	Yes	□No.	N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	Yes	No	□N/A	12.
-Includes Date/Time/ID/Analysis Matrix:	NI			
All containers needing acid/base preservation will b checked and documented in the pH logbook.	e Zyes	□No	□N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	Yes	□No	N/A	13.
Headspace in VOA Vials ( >6mm)?	Yes	□No	N/A	14.
Trip Blank Present?	Yes	No	□N/A	15.
Trip Blank Custody Seals Present?	Yes	No	N/A	
Pace Trip Blank Lot # (if purchased):				
LIENT NOTIFICATION/RESOLUTION				Field Data Required? Yes No
Person Contacted:				Date/Time:
Comments/Resolution:				